

GuliTech G-138Pro-wo Battery

FNIRSI-138 PRO Handheld Digital Oscilloscope User Manual

MODEL: G-138PRO-WO BATTERY

Brand: GuliTech

PRODUCT OVERVIEW

The FNIRSI-138 PRO is a highly practical and cost-effective MINI handheld oscilloscope designed for maintenance and R&D education industries. It offers a real-time sampling rate of 2.5MS/s and a 200KHz analog bandwidth, making it suitable for both periodic analog and aperiodic digital signals.

Key Features

- 2.5MSa/s real-time sampling rate and 200KHz analog bandwidth.
- Full trigger functions: Single, Normal, and Automatic.
- Capable of measuring voltages up to $\pm 400V$.
- Efficient one-key AUTO function for quick waveform display.
- Equipped with a 2.4-inch high-definition LCD screen (320*240 resolution).
- Supports 80KHz PWM output.
- Built-in 1000mAh lithium battery for approximately 5 hours of continuous use.

What's in the Box

- 1 x FNIRSI-138 PRO Handheld Digital Oscilloscope (without battery variant)



Figure 1: The FNIRSI-138 PRO Handheld Digital Oscilloscope, showing its display and control buttons.



Figure 2: The FNIRSI-138 PRO oscilloscope and its included accessories, sealed in protective packaging.

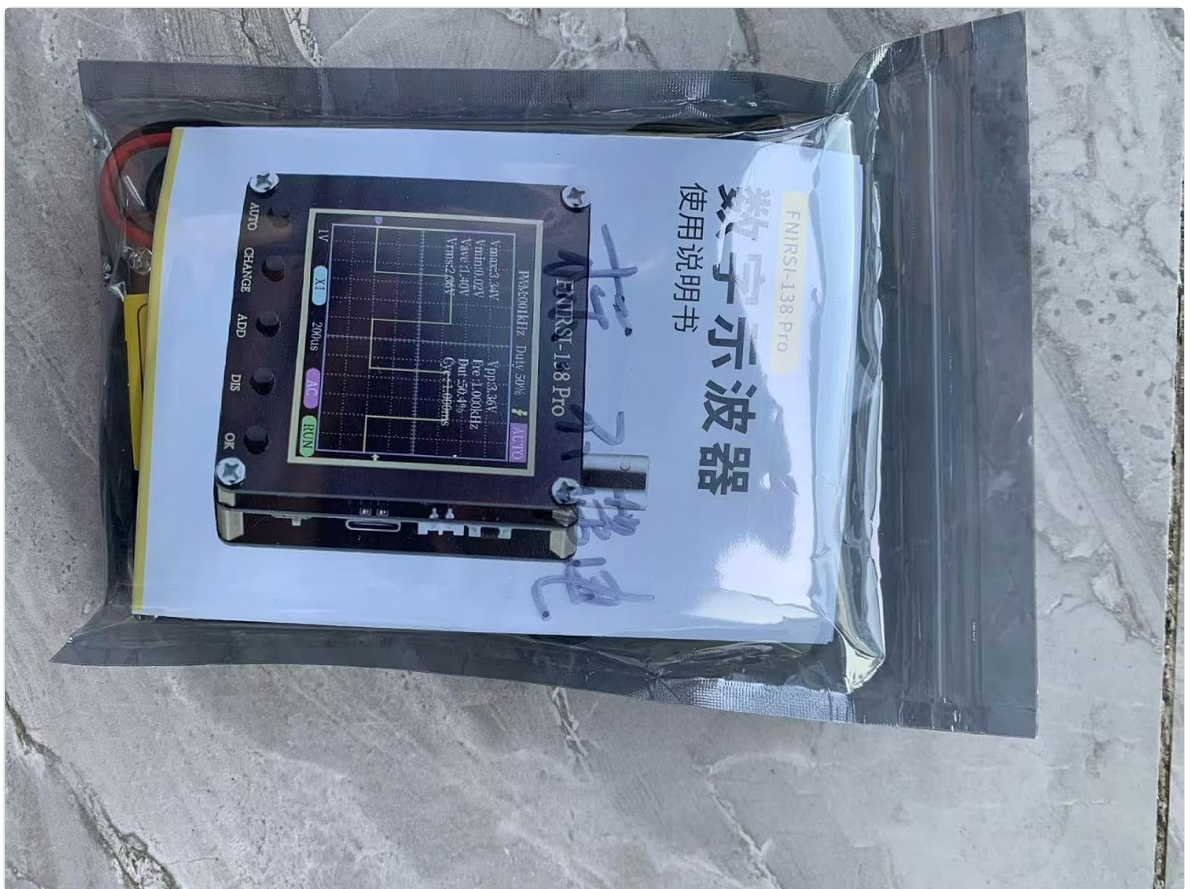


Figure 3: The FNIRSI-138 PRO oscilloscope alongside its user manual, packaged for delivery.

SETUP

Unpacking

Carefully remove the oscilloscope and all accessories from the packaging. Inspect all components for any signs of damage during transit. Refer to Figure 2 and Figure 3 for typical packaging contents. Ensure all listed items in "What's in the Box" are present.

Initial Power-Up

If your model includes a battery, ensure it is sufficiently charged before first use. Connect the appropriate power adapter (if included or required) to the device. Press and hold the power button until the screen illuminates. The device will perform a self-test and then display the main measurement interface.

OPERATING INSTRUCTIONS

Basic Operation

Connect the probe to the signal source you wish to measure. The oscilloscope has a 2.5MSa/s real-time sampling rate and a 200KHz analog bandwidth, suitable for a wide range of signals. Use the navigation buttons (AUTO, CHANGE, ADD, DIS, OK) to adjust settings such as vertical sensitivity (V/div) and horizontal time base (s/div).

Trigger Functions

The FNIRSI-138 PRO features full trigger functions to stabilize waveforms:

- **Normal Trigger:** Triggers only when the signal crosses the trigger level.
- **Auto Trigger:** Automatically triggers even without a stable signal, useful for observing varying signals.
- **Single Trigger:** Captures a single waveform when the trigger condition is met, then stops. Ideal for capturing non-repeating events.

Adjust the trigger level using the appropriate controls to capture the desired part of the waveform.

Voltage Measurement

The device can measure voltages up to $\pm 400V$. Ensure your probe is set to the correct attenuation (e.g., 1X or 10X) and that the oscilloscope's settings match. The display will show key voltage parameters such as Vmax, Vmin, Vpp (peak-to-peak voltage), and Vrms (root mean square voltage).

One-Key AUTO Function

Press the "AUTO" button for automatic adjustment of vertical and horizontal scales, as well as trigger settings. This function quickly optimizes the waveform display, making it easy to view signals without manual configuration.

PWM Output

The oscilloscope supports 80KHz PWM (Pulse Width Modulation) output. This feature can be used for testing or generating specific signals for other circuits. Refer to the on-screen menu for adjusting PWM parameters like frequency and duty cycle.

Firmware Update

The device supports firmware updates to enhance functionality and performance. Visit the official GuliTech or FNIRSI website for the latest firmware and detailed update instructions. Typically, this involves connecting the device to a computer via USB and following specific software prompts.

MAINTENANCE

Cleaning

To clean the device, use a soft, dry cloth. For stubborn dirt, a slightly damp cloth with mild detergent can be used, but ensure no liquid enters the device. Do not use abrasive cleaners or solvents. Keep the screen free of dust and fingerprints for optimal visibility.

Battery Care

The built-in 1000mAh lithium battery provides approximately 5 hours of continuous operation. To prolong battery life, avoid fully discharging the battery frequently. If storing the device for an extended period, charge the battery to about 50% and store in a cool, dry place. Recharge periodically if not in use.

Storage

Store the oscilloscope in a clean, dry environment, away from direct sunlight, extreme temperatures, and high humidity. Use the original packaging or a protective case to prevent physical damage when transporting or storing the device.

TROUBLESHOOTING

Common Issues and Solutions

- **Device Does Not Power On:**
Ensure the battery is charged. If using an external power source, verify the connection and power supply. If the battery is removable, ensure it is correctly inserted.
- **No Waveform Displayed / Flat Line:**
Check if the probe is securely connected to both the oscilloscope and the signal source. Verify the signal source is active. Adjust the vertical sensitivity (V/div) and horizontal time base (s/div) settings. Try pressing the "AUTO" button.
- **Unstable or Rolling Waveform:**
Adjust the trigger level. Ensure the correct trigger mode (Normal, Auto, Single) is selected for your signal. For periodic signals, "Normal" or "Auto" trigger is usually appropriate. For single

events, use "Single" trigger.

- **Distorted or Noisy Waveform:**

Check for proper grounding. Ensure the probe is not picking up external interference. Verify the probe's attenuation setting matches the oscilloscope's input setting.

If you encounter issues not listed here or require further assistance, please contact GuliTech customer support.

SPECIFICATIONS

Feature	Specification
Model Number	G-138Pro-wo Battery
Real-time Sampling Rate	2.5MSa/s
Analog Bandwidth	200KHz
Max Input Voltage	±400V
Display	2.4-inch LCD, 320*240 resolution
Trigger Functions	Single, Normal, Automatic
PWM Output	80KHz
Battery	1000mAh Lithium Battery (approx. 5 hours use)
Product Dimensions	8.66 x 5.91 x 4.72 inches
Weight	1.1 Pounds
Manufacturer	FNIRSI

WARRANTY AND SUPPORT

This product is covered by a manufacturer's warranty. For specific warranty terms and conditions, please refer to the documentation included with your purchase or visit the official GuliTech website. For technical support, troubleshooting assistance, or warranty claims, please contact GuliTech customer service through their official channels. Provide your product model number (G-138Pro-wo Battery) and purchase details when seeking support.

